

## Battery Powered Digital Datalogging Pressure Gauges

# WLB-DDPG Series

- Accuracy <0.2% FS
- Ranges from -1 to 1000 bar
- 27000 data records per test
- Space for 10 tests max 48h each
- Recording rate up 100ms
- Compatible with the Watchlog Bluetooth mobile app
- Back-lit display with bar graph & min/max
- Selectable display of temperature
- 3 x 1.5Vdc AAA battery supply
- Compact and Rugged IP67
- 270° Rotatable Display



The ideal low cost solution to digital pressure testing and recording. With display of pressure, pressure peaks and recording up to 48 hours, digital datalogging pressure gauges offer excellent accuracy and traceability which a standard pressure gauge simply can not provide.

Also compatible with the free Watchlog Bluetooth monitoring and datalogging app, making this an even more powerful datalogging pressure gauge!

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# DESCRIPTION

WLB-DDPG series digital pressure gauges are designed for both stationary and mobile measurement, display and datalogging of pressure. They can be used as reference pressure gauges to simplify the checking, adjustment and calibration of other pressure measurement devices directly on site. Excellent protection against dust and moisture is provided by a membrane keypad with rubber buttons and rubber protective shroud.

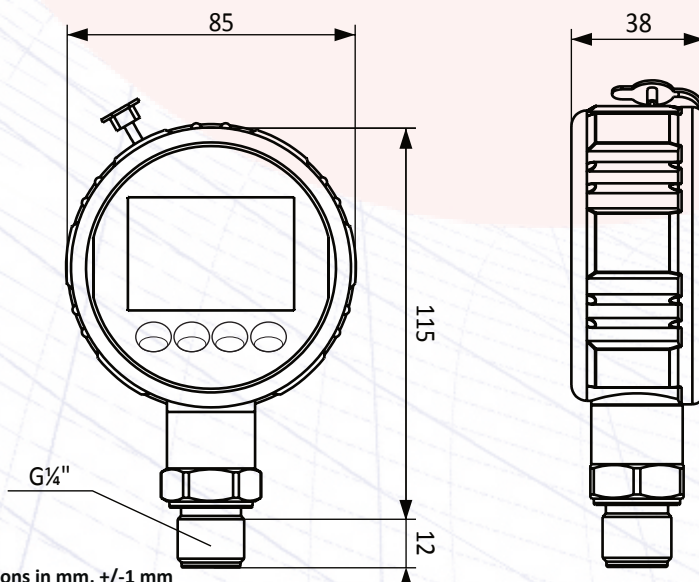
## DEVICE & OPERATION OVERVIEW

- 1 Bar graph display with maximum pointer function, 33 segments
- 2 Actual pressure display, digit height 15 mm
- 3 Unit display / recording series display
- 4 Data logger display, flashes during recording
- 5 Battery status display, 5 segments
- 6 Additional display MIN/MAX value, full scale pressure value or temperature (°C or °F) - digit height 8mm
- 7 USB-C connection to PC/laptop for data transfer and software updates
- 8 Control buttons



ON/OFF		Switch device on or off
LIGHT		Backlighting (20s)
MENU		Device settings
UNIT		Select measurement units (see technical data)
ZERO		Zero point correction up to 5% of full scale pressure value
MODE		Show MIN/MAX, Temp (°C or °F) or gauge F.S.
REC		Start or stop data logger
SET		Delete MIN/MAX value or confirm input

## TECHNICAL DRAWING



All dimensions in mm, +/-1 mm



Optional Minimesse® Male or Female adaptor to allow for easy hand tight connection / disconnection to Minimesse® test points or hoses (max working pressure 630 bar).



## ORDERING CODE

Ordering code *	Measuring range	Resolution
WLB-DDPG-V016	-1...16 bar	10 mbar
WLB-DDPG-0060	0...60 bar	10 mbar
WLB-DDPG-0250	0...250 bar	100 mbar
WLB-DDPG-0400	0...400 bar	100 mbar
WLB-DDPG-0700	0...700 bar	100 mbar
WLB-DDPG-1000	0...1000 bar	100 mbar

Different measuring ranges and accuracies of  $\pm 0.1\%$  and  $\pm 0.05\%$  are available on request.

\*-MM after part number for Minimes® 1620 male adaptor fitted

-MF after part number for Minimes® 1620 female adaptor fitted

## TECHNICAL DATA

Pressure ranges	Between -1...1000 bar
Accuracy $\pm$ (% of full scale pressure value)(FS)	0.2% (0.1% and 0.05% accuracies available on request)
Pressure units	bar/mbar, kPa/MPa, PSI, kg/cm <sup>2</sup> , mH <sub>2</sub> O, inH <sub>2</sub> O, ATM
Display type	Multifunctional LCD, 4 1/2 digit, with background lighting
Display functions	Bar graph, pressure unit, display filter, MIN/MAX value, Overpressure indicator 110% of full scale pressure value (FS)
Pressure measuring cell	$\leq 10$ bar piezo resistive, $\geq 20$ bar thin film strain gauge
Temperature compensation	0...50°C
Temperature error	0.005% of full scale pressure value (FS) / K
Measuring rate actual value	10ms
Measuring rate bar graph	50ms
Thread ISO 1179-2	G1/4 with NBR gasket, AF27
Process connection material	Stainless steel 1.4404
Medium temperature	-20...80 °C
Housing connection	270° axially rotatable
Degree of protection DIN EN 60529	IP67
Dimensions	Ø 90 mm, D=45mm H=120mm with protection cap
Materials	Sensor Body 304L, Measuring Cell 316L
Ambient conditions	0...50 °C with air humidity $\leq 85\%$ r.h.
Weight	357g without 3xAAA batteries fitted
Vibration resistance IEC 60068-2-6	5g up to 500Hz
Shock resistance IEC 60068-2-29	25g for 11ms
Auto-off function	Selectable switch-off time 5 minutes
Battery type	3x 1.5 V AAA
Battery operation	1500h
Datalogger max. data sets	27000 per recording series
Datalogger record series	1...10
Storage rate	0.1...6.4 s - automatic depending on recording duration
Max. recording duration	48 h
Data set information	time / actual pressure / MIN/MAX value
Digital data transmission	serial USB 2.0 via USB-C port
PC software	Detection as USB data storage device, spreadsheet program (Excel)
File format	.csv
Mobile device software	Compatible with Watchlog Bluetooth iOS and Android apps for display and datalogging
Linearisation	The factory linearisation is changed via OFFSET and INCREASE. A special programming adaptor is required. Communication between PC/laptop and digital pressure gauge is via TTL level by means of a PC terminal program
Certificate (optional)	UKAS traceable certificate, works test certificate



## Datalogger function

- 10 recording series possible.
- 27,000 data sets per recording series.
- Each data record contains time, date, actual pressure, and MIN/MAX value.
- Intelligent automatic measuring intervals mean the time between data-sets (storage rate) is selected automatically depending on the recording duration (see table below).

Recording duration (h)	Storage rate (s)	Maximum data-sets
0...0.5	0.1	18000
0.5...1	0.2	18000
1...2	0.4	18000
2...4	0.8	18000
4...8	1.6	18000
8...16	3.2	18000
16...48	6.4	27000

- A total of 640 MIN/MAX measurements are recorded between two storages with a storage rate of e.g. 6.4 seconds at a measuring rate of 10 ms. Any irregularities occurring due to pressure drop or pressure peaks are detected as MIN/MAX valued and stored in the data set.
- Summary of all MIN/MAX values per record series
- Plug & Play USB connection means no additional drivers or software required.
- Data stored and transferred in CSV (plain text) format so no need for conversion. Open directly in spreadsheets or databases (MS Excel, MS Access, Apple Numbers, LibreOffice, OpenOffice, etc).

## Security of operation

- The gauge cannot be accidentally powered down when datalogging function is enabled.
- Non-volatile storage means that recordings are retained if batteries expire.
- Future-proof by transferring software updates via USB-C connection to PC/laptop.
- Recorded data is stored securely so overwriting your results is not possible.

## Package contents

- 1 WLB-DDPG digital datalogging gauge.
- 2 Secure shipping box with sleeve wrap.
- 3 USB data stick for storage of CSV data files.
- 4 USB-C to USB-A connecting cable for data transfer to PC/laptop and software updates.



## Watchlog Bluetooth App

The WLB-DDPG digital datalogging gauge is compatible with the Watchlog Bluetooth display and datalogging app for iOS and Android.

Download for free on to your mobile device from the app store.



## Watchlog CSV Visualizer

The CSV files generated by the digital datalogging gauge are fully compatible with our Watchlog CSV drag-and-drop CSV graphing, analyser, and annotation software for Windows.



Download from [hydrotechnik.co.uk/csv](http://hydrotechnik.co.uk/csv)

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